

CLAIMS

1. A process for manufacturing a water-absorbing composite comprising the steps of:

(A) spraying an aqueous monomer solution containing acrylic acid
5 and/or its salt on a heat-raised fibrous substrate to apply droplets of the aqueous monomer solution on the fiber constituting the fibrous substrate;

(B) polymerizing the monomers in the droplets to form a water-absorbing composite in which the water-absorbing resin particles adhere to the fiber constituting the fibrous substrate.

10 2. A process for manufacturing a water-absorbing composite comprising the steps of:

(A) spraying an aqueous monomer solution containing acrylic acid and/or its salt on a heat-raised fibrous substrate to apply droplets of the aqueous monomer solution on the fiber constituting the fibrous substrate;

15 (B) polymerizing the monomers in the droplets to form a water-absorbing composite in which the water-absorbing resin particles adhere to the fiber constituting the fibrous substrate; and

(C) thermo-compressing the water-absorbing composite prepared in step (B).

20 3. The process for manufacturing a water-absorbing composite as claimed in Claim 1 or 2, wherein the amount of the water-absorbing resin particles adhering to the fibrous substrate is 100 g/m² or more.

4. The process for manufacturing a water-absorbing composite as claimed in Claim 1 or 2, wherein the amount of the water-absorbing resin
25 particles adhering to the fibrous substrate is 250 to 500 g/m² or more.

5. The process for manufacturing a water-absorbing composite as claimed in Claim 1 or 2, wherein the aqueous monomer solution contains a

crosslinking agent in 1000 to 5000 ppm to the amount of the monomers.

6. The process for manufacturing a water-absorbing composite as claimed in Claim 1 or 2, wherein the fibrous substrate to be sprayed with the aqueous monomer solution is an unwoven fabric with a tensile strength of 50 to
5 300 g/25 mm.

7. A process for manufacturing a laminated water-absorbing composite comprising the steps of:

(A) spraying an aqueous monomer solution containing acrylic acid and/or its salt on a heat-raised fibrous substrate to apply droplets of the aqueous monomer solution on the fiber constituting the fibrous substrate;
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(B) polymerizing the monomers in the droplets to form a water-absorbing composite in which the water-absorbing resin particles adhere to the fiber constituting the fibrous substrate; and

(D) laminating the water-absorbing composite prepared in step (B) and a fibrous substrate to form a laminate and then passing the laminate between a pair of rollers, at least one of which is heated, for thermally compressing the laminate to integrate combine the water-absorbing composite and the fibrous substrate by thermal fusion.
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8. The process for manufacturing a laminated water-absorbing composite as claimed in Claim 7, wherein at least one of the pair of rollers has a surface with an uneven pattern.
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